PROPOSED PLAN

FOR SIX FORMERLY USED DEFENSE SITES AT FORT RANDALL, COLD BAY, ALASKA

You are encouraged to provide comments on the preferred alternatives for the six sites discussed in this Proposed Plan. Your comments can make a difference in deciding which cleanup alternatives will be chosen. USAED will not select a final course of action until all comments received during the public comment period have been reviewed and considered (see page 27 for details).

***Remedial Investigation**: a study conducted to identify the types, amounts, and location of contamination at a facility.*

***Feasibility Study**: a study that identifies and evaluates different alternatives for cleaning up or managing contaminated sites.*

INTRODUCTION

PURPOSE AND SCOPE

The purpose of this Proposed Plan is to describe existing environmental conditions, discuss cleanup alternatives, and present the preferred alternatives for six formerly used defense sites at Fort Randall in Cold Bay, Alaska. In addition, this Proposed Plan solicits public review and comment on the alternatives described and provides information on how the public can be involved in the remedy selection process. This Proposed Plan covers the following sites: the Drum Disposal Area, Beach Seep Area, Asphalt Seeps, Stapp Creek, East-West Runway, and Collapsed Wooden Building. This work is part of continuing cleanup efforts in Cold Bay by the U.S. Army Engineer District (USAED).

A remedial investigation of the six locations was conducted in May and June 2002, and a feasibility study was prepared to evaluate cleanup options for each location. With the exception of the Collapsed Wooden Building site, action is required at each of the sites to ensure continued protection of human health and the environment. Table 1 identifies the preferred alternatives based on the results of the feasibility study.

TABLE 1: PREFERRED ALTERNATIVES

Site	Preferred Alternative
Drum Disposal Area and Beach Seep Area Soils	Thermal Treatment, Bioventing, and Soil Vapor Extraction (DDA 8)
Drum Disposal Area and Beach Seep Area Sediments, Free Product, and Groundwater	High Vacuum Extraction for Mass Capture (BSA 5)
Asphalt Seeps	Remove Drums from Drum Trenches, Cap Exposed Asphalt, and Monitor Bury Pit #2 (ASA 2 Modified)
Stapp Creek and East West Runway	Underground Storage Tanks Removal, Soil Excavation and Treatment / Disposal (SC/EWR 3)
Collapsed Wooden Building	No Further Action
Note: Alternative numbers (for example DDA 8) reference the nomenclature used in the *Final Feasibility Study*	

The process involved in evaluation and cleanup of the six sites discussed in this Proposed Plan is summarized in Figure 1. Although details concerning the implementation of this process vary from site to site, the remedial investigation, risk screening, and feasibility study have been completed for each of the sites. In addition, a series of interim removal actions have been conducted to remove contaminated soil and tanks, drums, and pipelines that had the potential to release additional contamination.

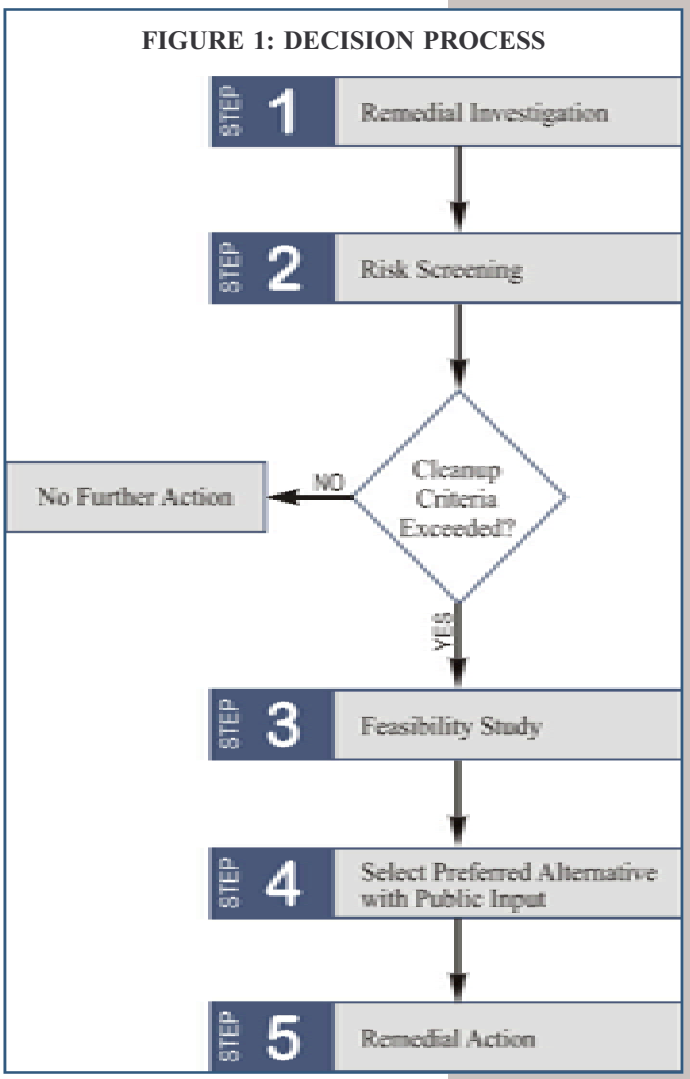
This Proposed Plan is required under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan (NCP) to fulfill public participation requirements. The U.S. Army Corp of Engineers is the agent for the Department of Defense and, as such, is delegated the responsibility for addressing contamination at formerly used defense sites.

***CERCLA and the NCP**: the federal regulation and law that establish cleanup processes for most hazardous waste sites.*

Final decisions on how to address the sites will not be made until all comments submitted during the public comment period have been reviewed and considered. The selected remedies may differ from the preferred alternatives if public comments or additional information indicate that such changes would result in more appropriate solutions. Remedial action will take place following selection of remedies for each of the sites.

Your involvement is an important element in making decisions for future cleanup actions at Cold Bay. If you are interested in voicing your opinion or comments, attend the public meeting on 3 May 2004 at 6:30 PM, at the Cold Bay City Hall/Library; or, if you prefer, you can submit written comments on the comment form included at the end of this Proposed Plan.

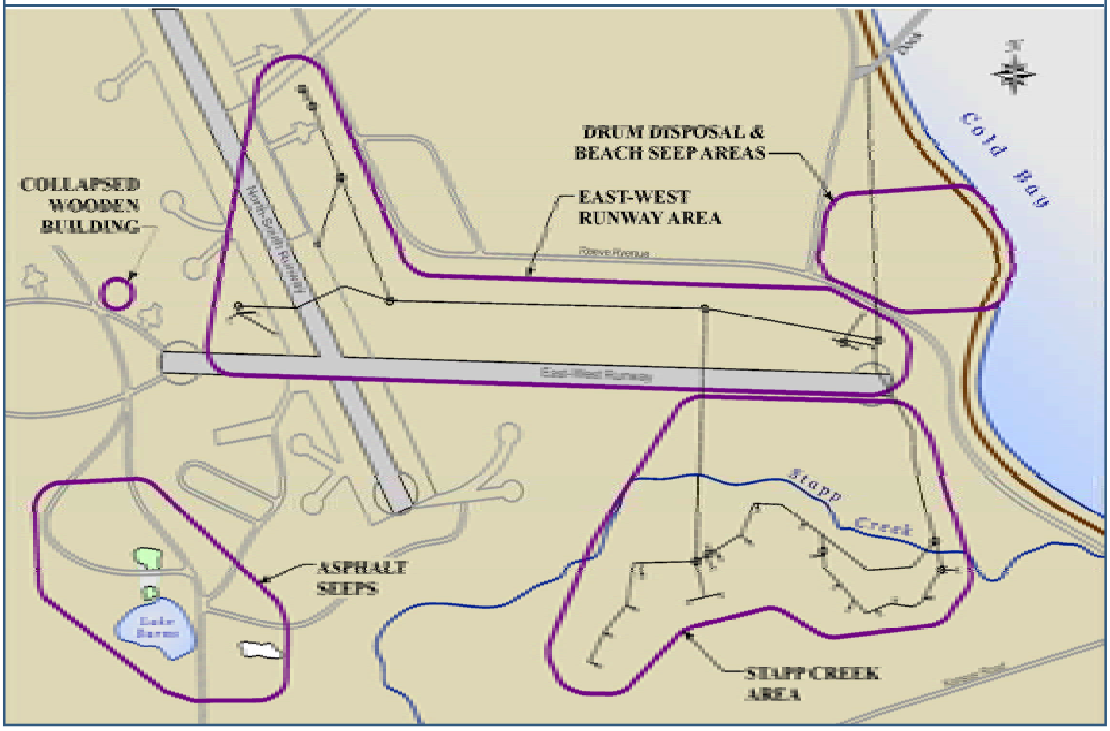
FIGURE 1: DECISION PROCESS



HISTORY AND BACKGROUND

Cold Bay was a strategic location for the military during World War II. Military construction included the runway, docking facilities, fuel storage tanks, fuel piping systems, Yakutat huts, and Quonset huts. After the U.S. capture of Attu Island and the occupation of Kiska Island in 1943, the military importance of Cold Bay diminished. In 1944, Fort Randall was placed in caretaker status; it was closed and abandoned in 1950, leaving many structures and utilities in place.

FIGURE 2: LOCATION MAP



ENVIRONMENTAL CONTAMINANTS OF CONCERN

Contaminants of concern at Fort Randall include fuels, fuel additives, pesticides, metals, and solvents. Table 2 summarizes those contaminants and their components and includes contaminants found in soils, sediments, and groundwater. Specific cleanup levels are included in Tables 3, 4, and 5.

TABLE 2: TYPES OF CONTAMINANTS FOUND

Type of Contaminant	Analytical Grouping	Specific Analyte	Comments
Petroleum Hydrocarbons (Fuels)	Total Petroleum Hydrocarbon Fractions	Gasoline-Range Organics	Grouping of light fuel components, such as gasoline
		Diesel-Range Organics	Grouping of mid-weight fuel components, such as diesel fuel
		Residual Range Organics	Grouping of heavy fuel components, such as lubricating oil
	BTEX	Benzene Toluene Ethylbenzene Xylenes	Volatile fuel components
	Polynuclear Aromatic Hydrocarbons	2-Methylnaphthalene Anthracene Benzo[a]anthracene Benzo[a]pyrene Benzo[b]fluoranthene Benzo[g,h,i]perylene Benzo[k]fluoranthene Dibenzo[a,h]anthracene Fluorene Indeno[1,2,3-c,d]pyrene Naphthalene Phenanthrene Pyrene	Semivolatile fuel compounds marked by connected benzene rings
	Other Fuel Components	1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene	Miscellaneous fuel components
Fuel Additives	-	1,2-dibromoethane	Used to keep lead in leaded gasoline
		1,2-dichloroethane	
Pesticides	Pesticides	Beta-BHC (b-HCH)	A common pesticide
Metals	Metals	Lead	Added to leaded fuels
Solvents	Volatile Organic Compounds	Trichloroethene	A common degreaser

***Petroleum Hydrocarbons**: a group of chemicals commonly found in fuel products. These include gasoline-range organics , diesel-range organics, and residual-range organics. Compounds such as benzene, toluene, ethylbenzene, and xylenes (BTEX). which are found in gasoline, are included in this group of chemicals.*

Contaminated Soils

Contaminants of concern in soil at Fort Randall include petroleum hydrocarbons, fuel additives, pesticides, metals, and solvents. Petroleum hydrocarbons, a pesticide (beta-BHC), and a fuel additive (1,2-dibromoethane) are present at the Drum Disposal Area. Diesel-range organics are present at the Beach Seep Area. Asphalt (containing polycyclic aromatic hydrocarbons or PAHs), diesel-range organics, and residual-range organ-

ics are present at the Asphalt Seeps. Petroleum hydrocarbons are present at the Stapp Creek and the East-West Runway. Table 3 lists soil contaminants of concern, the maximum concentration at which they were detected, and proposed cleanup levels (in blue).

Investigations conducted at the Asphalt Seeps might not have fully defined the contaminants present there because drum contents are unknown; additional contaminants of concern might be identified at that site in the future.

TABLE 3: SOIL CONTAMINANTS OF CONCERN

Site	Contaminant	Maximum Detected Concentration	Regulatory Limit by Exposure Pathway			Cumulative Risk Level	Source of Regulatory Limit
			Ingestion	Inhalation	Migration to Groundwater		
Drum Disposal Area	Diesel-Range Organics	39,000	10,100	12,500	**524**	-	Method 3
	Gasoline-Range Organics	5,700	1,400	1,400	**578**	-	
	Benzene	11	151	9.9	**0.0228**	7.5	
	Ethylbenzene	24	10,100	155	**9.15**	-	
	Toluene	50	20,300	278	**8.01**	-	
	Xylenes	400	203,000	-	**129**	-	
	Beta-BHC (b-HCH)	0.0487	4.61	61.4	**0.0176**	-	
	2-Methylnaphthalene	154	2030	-	**86.6**	-	
	1,2,4-Trimethylbenzene	99	5,070	133	192	**25.2**	
	1,3,5-Trimethylbenzene	140	5,070	52.8	46.9	**35.5**	
	1,2-Dibromoethane	0.017	0.0977	1.35	**0.000173**	-	
Beach Seep Area	Diesel-Range Organics	31,400	10,100	12,500	**524**	-	Method 3
Asphalt Seeps	Diesel-Range Organics	20,600	10,100	12,500	**5690**	-	Method 3
	Residual-Range Organics	51,300	**10,100**	22,000	22,000	-	
Stapp Creek	Diesel-Range Organics	361	10250	12,500	**250**	-	Method 2
	Benzo[a]anthracene	16.6	11	-	**6**	-	
	Benzo[a]pyrene	14.4	**1**	-	3	-	
	Benzo[b]fluoranthene and Benzo[k]fluoranthene	27.4	**11**	-	20	-	
	Dibenzo[a,h]anthracene	1.81	**1**	-	6	-	
East-West Runway	Gasoline-Range Organics	1,200	1,400	1,400	**300**	-	Method 2
	Diesel-Range Organics	21,500	10,250	12,500	**250**	-	
	Dibenzo[a,h]anthracene	1.05	**1**	-	6	-	
	Benzene	95	150	9	**0.02**	-	
	Ethylbenzene	370	10,000	89	**5.5**	-	
	Toluene	42	20,300	180	**5.4**	-	

Notes:
All Values are in milligrams/kilogram (mg/kg)
Blue text represents the proposed cleanup level

Contaminated Sediments

Fuel-related contamination in beach sediments at the Beach Seep Area extends approximately 250 feet along the shoreline, 35 feet towards the beach bluff, and approximately 1.5 to 2 feet below ground surface. The State of Alaska has not established cleanup standards for sediments. Therefore, ecological benchmarks have been used as screening criteria for sediment contamination. Marine sediment data collected from the inter-tidal zone of the Beach Seep Area were compared to National Oceanic and Atmospheric Administration (NOAA) sediment quality guidelines established for marine sediments and similar sources, such as Oak Ridge National Laboratory. Table 4 lists contaminant concentrations detected above ecologically based screening benchmarks. (These values should not be considered cleanup standards but represent the lowest concentration at which ecological impacts are considered possible.) All of these compounds are fuel-related.

***Sediment**: loose particles of sand or mud that are transported from their place of origin by moving water and deposited in unconsolidated layers.*

TABLE 4: SEDIMENT CONTAMINANTS OF CONCERN

Site	Contaminant	Maximum Detected Value	Minimum Ecological Screening Criteria
Beach Seep Area	Toluene	13.4	0.05
	2-Methylnaphthalene	17,300	0.07
	Anthracene	2,260	0.0853
	Benzo[a]pyrene	125	0.43
	Benzo[b]fluoranthene and Benzo[k]fluoranthene	260	0.027
	Benzo[g,h,i]perylene	51.8	0.29
	Fluorene	4,840	0.019
	Indeno[1,2,3-c,d]pyrene	72.6	0.078
	Naphthalene	3,840	0.16
	Phenanthrene	15,300	0.24
	Pyrene	3,390	0.665

Notes:
All values are in milligrams per kilogram (mg/kg).
Sources for ecological screening criteria include:

- NOAA sediment quality guidelines (http://response.restoration.noaa.gov/cpr/sediment/squirt/squirt.html)
- Oak Ridge National Laboratory. 1997. *Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Sediment-Associated Biota*
- Long, E.R., D. MacDonald, S. Smith, and F. Calder. 1995. "Incidence of Adverse Biological Effects Within Ranges of Chemical Concentrations in Marine and Estuarine Sediments." *Environmental Management.* Volume 19, No. 1

Liquid Diesel Fuel Contamination

Pure petroleum contaminants are generally referred to as light non-aqueous phase liquids (LNAPL) because they are lighter than water and will not readily mix with water. This LNAPL contamination is present at the Drum Disposal Area and Beach Seep Area. A portion of this contamination consists of mobile contamination floating on the groundwater surface; this contamination generally is referred to as free product (see Figure 3). The remainder of the LNAPL contamination is trapped as immobile droplets beneath the water table or as semi-mobile contamination above the LNAPL layer. The lateral extent of free product contamination changes over time as the water table rises and falls.

***Free Product**: petroleum floating on the groundwater surface.*

Groundwater Contamination

Contaminants of concern in groundwater include petroleum hydrocarbons at the Drum Disposal Area and Beach Seep Area, and residual-range organics and lead at the Asphalt Seeps (see Table 5). In addition, a solvent (trichloroethene), two fuel additives, and lead are present in groundwater at the Drum Disposal Area. The two fuel additives are: 1,2-dibromoethane and 1,2-dichloroethane (both are additives to leaded gasoline used to keep lead in suspension). The fuel additive 1,2-dibromoethane also is present in groundwater beneath the Beach Seep Area.

TABLE 5: GROUNDWATER CONTAMINANTS OF CONCERN

Site	Analyte	Units	Maximum Detected Value	Cleanup Level	Source of Cleanup Level
Drum Disposal Area	Diesel-Range Organics	mg/L	15.1	1.5	18 AAC 75
	Gasoline-Range Organics	mg/L	6.37	1.3	18 AAC 75
	Residual-Range Organics	mg/L	1.16	1.1	18 AAC 75
	1,2-Dibromoethane	µg/L	10	0.05	Tech Memo 01-007
	1,2-Dichloroethane	µg/L	12.5	5	18 AAC 75
	Benzene	µg/L	1,150	5	18 AAC 75
	Naphthalene	µg/L	216	700	18 AAC 75
	Toluene	µg/L	1,390	1,000	18 AAC 75
	Trichloroethene	µg/L	5.43	5	18 AAC 75
	Xylenes	µg/L	705	10,000	18 AAC 75
	Benzo[b]fluoranthene	µg/L	0.157*	1	18 AAC 75
	Benzo[k]fluoranthene	µg/L	0.157*	10	18 AAC 75
	Phenanthrene	µg/L	7.57	11,000	Tech Memo 01-007
	Lead	mg/L	0.0087	0.015	18 AAC 75
Beach Seep Area	Diesel-Range Organics	mg/L	58.3	1.5	18 AAC 75
	Residual-Range Organics	mg/L	1.14	1.1	18 AAC 75
	Benzene	µg/L	90	5	18 AAC 75
	Naphthalene	µg/L	90	700	18 AAC 75
	1,2-Dibromoethane	µg/L	5.4	0.05	18 AAC 75
	Total Aromatic Hydrocarbons	µg/L	115.87	10	18 AAC 70
	Total Aqueous Hydrocarbons	µg/L	225	15	18 AAC 70
Asphalt Seeps	Residual-Range Organics	mg/L	3.46	1.1	18 AAC 75
	Lead	mg/L	0.0214	0.015	18 AAC 75

*Previous analyses measured benzo[b]fluoranthene and benzo[k]fluoranthene as one analyte

Liquids in Tanks

Two underground storage tanks (UST) remain at Fort Randall: one (UST-1) in the East-West Runway area and another (UST-26) in the Stapp Creek area. Both tanks contain water with dissolved petroleum hydrocarbon contamination. UST-26 also contains dissolved lead. Although the sample from UST-1 was not analyzed for lead, based on the concentration of gasoline-range organics and the history of the site, it is likely that the concentration of lead in that tank also exceeds ADEC standards (18 AAC 75.345).

Buried Drums

During a geophysical survey at the Asphalt Seeps, two trenches of buried drums and a bury pit containing some drums were detected. It is estimated that as many as 8,500 drums could be buried at the site.

***Geophysical Survey**: an investigative technique using radar and magnetic technologies to identify objects underground.*

RISK SCREENING AND CLEANUP LEVELS

The overall cleanup objectives are to restore each site to a level that is protective of human health and the environment, and to comply with Applicable or Relevant and Appropriate Requirements.

To assess the risks that each site could pose to human health and the environment, contaminant concentrations were measured using analytical methods and compared to appropriate cleanup levels or other quantitative criteria. Potential exposure pathways considered in this analysis included:

- The use of groundwater as drinking water
- The inhalation of contaminants located in soil at depths of 15 feet or less
- The ingestion of soil located at depths of 15 feet or less

- The potential for soil contaminants to migrate to the underlying groundwater
- The impacts that contaminants could pose to the marine environment at the Beach Seep Area
- The impacts that contaminants could pose to human health or the freshwater environment at Stapp Creek and Lake Burns

Alaska Department of Environmental Conservation (ADEC): *the state agency responsible for protecting public health, safety, and the environment from adverse effects of environmental contamination.*

The Alaska Department of Environmental Conservation (ADEC) standards published in 18 AAC 75*, Oil and Other Hazardous Substances Pollution Control, govern the cleanup of sites contaminated with oil or other hazardous substances. These regulations address the selection or development of cleanup levels for contaminated soil and groundwater to protect human health and the environment. The proposed cleanup levels address both short-term (acute) and long-term (cancer) risks associated with the sites. The ADEC concurs with the USAED on the actions proposed in this Proposed Plan.

United States Army Engineer District, Alaska (USAED)*: the federal agency responsible for sites discussed in this Proposed Plan.*

ADEC regulations provide four methods for determining soil cleanup levels:

- Method One is a standard table for soils contaminated only with petroleum products (gasoline-range organics, diesel-range organics, residual-range organics, benzene, toluene, ethylbenzene, and xylenes)
- Method Two is a standard table for soils contaminated with petroleum products or other chemicals
- Method Three allows for modification of Method Two values based on site-specific soil and aquifer data
- Method Four is a risk assessment

Methods One and Four were not used in the development of this Proposed Plan. Method Two cleanup levels are taken directly from the values listed in 18 AAC 75 and apply to the cleanup of Stapp Creek, the East-West Runway, and the Collapsed Wooden Building.

Method Three cleanup levels have been developed for Cold Bay's Drum Disposal Area, Beach Seep Area, and Asphalt Seeps. In developing Method Three cleanup levels, the only parameter that was changed from the default values listed in ADEC regulations was the fraction of the soil composed of organic carbon. Contaminants tend to accumulate on the surface of organic carbon, reducing their mobility. In other words, the higher the carbon concentration, the slower the migration of contaminants to groundwater. Approximately 0.21 percent of the soil at the Drum Disposal Area and Beach Seep Area is organic; approximately 2.3 percent of the soil at the Asphalt Seeps is organic. Although the Method Three cleanup levels apply to upland soils at the Beach Seep Area, they do not apply to the sediments along the beach, which contain much lower levels of organic carbon and are in contact with surface waters.

**A copy of 18 AAC 75 can be found at the Information Repository (see page 27) or via ADEC's web site at http://www.state.ak.us/dec/spar/csp/regs.htm*

ADEC regulations require that the potential cumulative risk for all contaminants at a site be evaluated. Cumulative risk calculations assess the potential impacts that contaminants could pose through multiple exposure pathways. For instance, a contaminant

in soil may pose a risk if the soil is ingested directly and additional risk if the contaminant migrates to the underlying groundwater and the groundwater is used as a source of drinking water. At the Drum Disposal Area, the cumulative risk potentially posed by contaminants at the alternative cleanup levels was above ADEC standards. This necessitated lowering the proposed cleanup levels for two contaminants of concern (1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene) in order to reduce cumulative risk to ADEC standards.

For groundwater, the cleanup levels used are the concentrations listed in Table C of the ADEC standards (18 AAC 75).

FEASIBILITY STUDY

As outlined in the National Contingency Plan, the objective of a feasibility study is to develop and evaluate cleanup alternatives so that an appropriate remedy can be selected. Preferred alternatives for the Cold Bay sites were selected based on criteria established by the U.S. Environmental Protection Agency and formally evaluated in the *Final Cold Bay Feasibility Study*. The criteria used in this evaluation are organized into two groups: threshold criteria and balancing criteria.

The threshold criteria, overall protection of human health and the environment and compliance with applicable or relevant and appropriate requirements, must be met for the candidate alternative to be selected. There are five balancing criteria, which are used to assess the alternatives that meet the threshold criteria. The balancing criteria are long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; and cost. Evaluation results for these two groups of criteria are provided for each site in the following site-specific details.

A third group of criteria, modifying criteria, are not considered until after completion of the public comment period. The two modifying criteria, state acceptance and community acceptance, may prompt USAED to modify aspects of the preferred alternative or to decide that another alternative is more appropriate. This Proposed Plan solicits public review and comment on the alternatives described and solicits community and state input on the selected remedies. The criteria used in selecting remedies for each of the sites are summarized below.

Threshold Criteria

- Overall protection of human health and the environment: Will the alternative protect human health and plant and animal life on and near the area? The chosen cleanup plan must meet this criterion.
- Compliance with applicable or relevant and appropriate requirements: Does the alternative meet all pertinent federal and more stringent state environmental statutes, regulations, and requirements? The chosen cleanup plan must meet this criterion.

Balancing Criteria

- Long-term effectiveness and permanence: How reliable will the alternative be at long-term protection of human health and the environment? Is the contamination likely to present a potential risk again?
- Reduction of toxicity, mobility, and volume through treatment: Does the alternative incorporate treatment to reduce the harmful effects of the contaminants, their ability to spread, and the amount of contaminated material present?
- Short-term effectiveness: How soon will risks be adequately reduced? Are there short-term hazards to workers, the community, or the environment that could occur during the cleanup process?
- Implementability: Is the alternative technically and administratively feasible? Are the goods and services needed to implement the alternative readily available?
- Costs presented in this Proposed Plan are estimates of the capital cost and the present value of the long-term operation and maintenance of the alternative.

Modifying Criteria

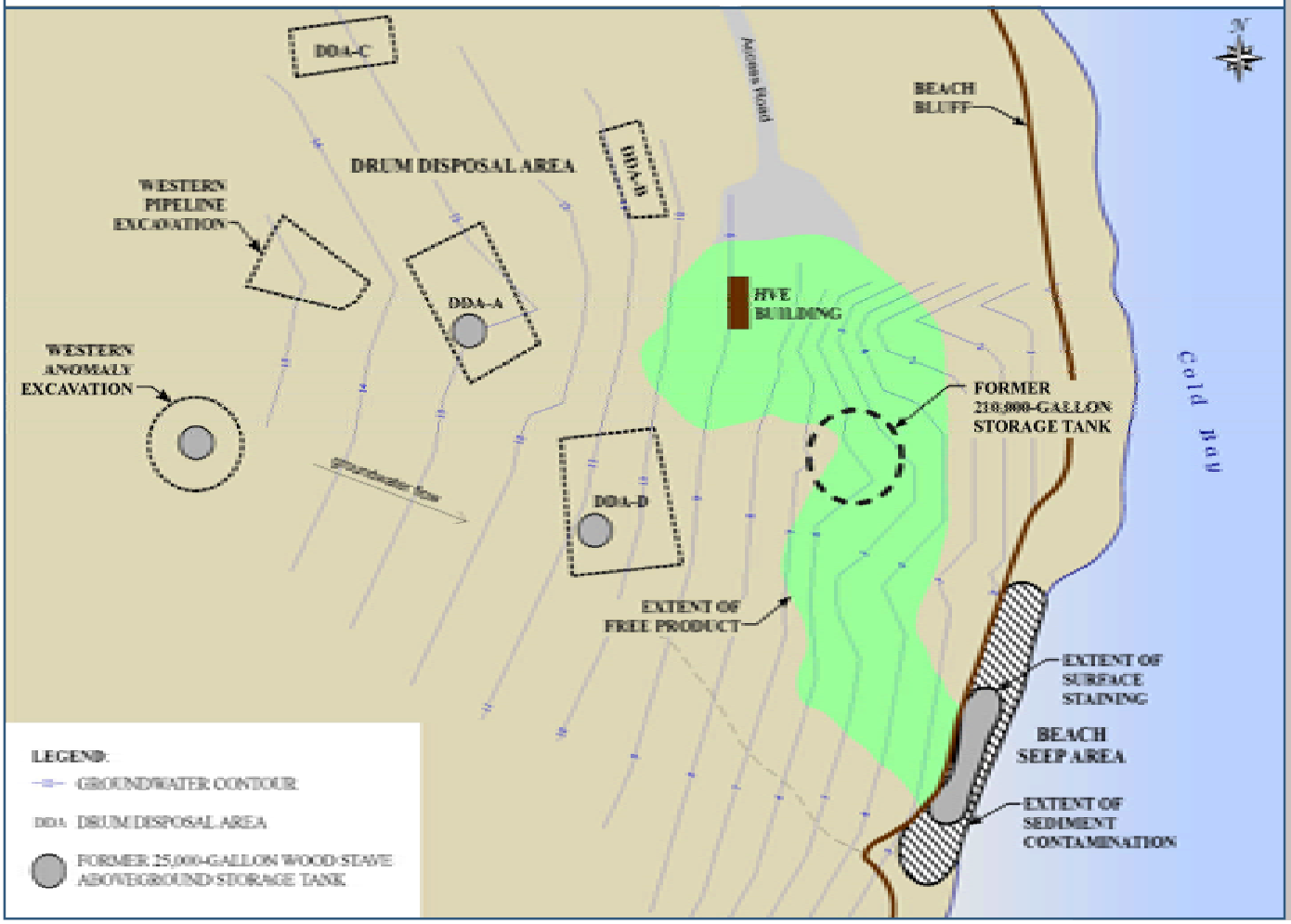
- State acceptance: Do state environmental agencies agree with the recommendations? What are their preferences and concerns?
- Community acceptance: What suggestions or modifications do residents of the community offer during the comment period? What are their preferences and concerns?

SITE-SPECIFIC DETAILS

DRUM DISPOSAL AREA AND BEACH SEEP AREA SOILS

During World War II, the Drum Disposal Area was used to store large quantities of 55-gallon drums and bulk quantities of fuel. The fuel distribution system originally included three 25,000-gallon wooden tanks. These tanks received diesel fuel by pipeline from the Cold Bay dock for distribution to two truck fill stations. The wood stave tanks later were abandoned in place, and a 210,000-gallon aboveground storage tank replaced them for diesel fuel storage. At some point, probably shortly after the end of World War II, many of the stored drums were buried in the Drum Disposal Area. The local community may have continued to use the fuel storage and distribution system until the late 1970s (information per the Site Cleanup and Investigation Report for the Cold Bay FAA Station, 1996 available in the information repository). The fuel distribution tanks and system and the buried drums were the primary sources of contamination at the Drum Disposal Area and Beach Seep Area.

FIGURE 3: DRUM DISPOSAL AND BEACH SEEP AREAS



Previous Environmental Investigations and Cleanup Actions

Cleanup activities for soils at the Drum Disposal Area and Beach Seep Area began in 1985. Early work included removing the 210,000-gallon diesel aboveground storage tank and demolishing adjacent structures.

- In 1998, 2,138 drums were removed from three drum disposal areas (DDA-A, DDA-B, and DDA-C). Approximately 3,000 cubic yards of contaminated soil were removed and stockpiled.
- In 1999, a geophysical survey was conducted, and 129 drums were removed from DDA-D and disposed of. Approximately 1,340 cubic yards of contaminated soil were removed and stockpiled. Approximately 140 feet of 4-inch diameter steel pipe were removed and disposed of.
- In 2000, 4,950 cubic yards of stockpiled soil were thermally treated. Over 2,000 crushed drums and associated scrap metal were recycled.
- In 2001, all remaining, stockpiled, contaminated soil was thermally treated. Treated soil was returned to its original location. The site was then graded and seeded.
- In 2002, a remedial investigation was conducted to define the extent of soil contamination remaining at the site.

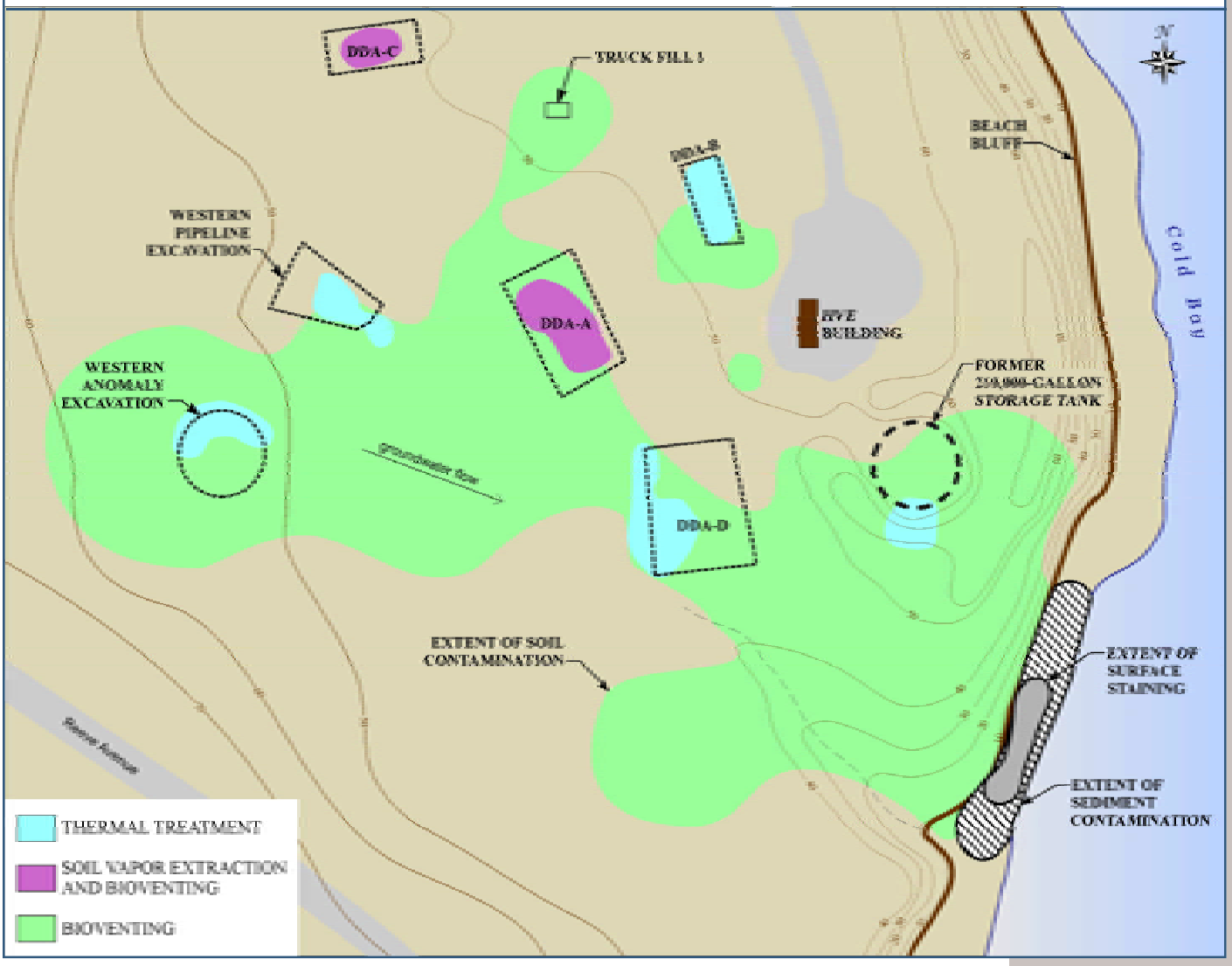
Photo: *Field crews collecting soil samples at the Beach Seep Area. Photo taken looking toward the north with Cold Bay Dock in the background. Soil in the area is visibly stained. The extent of contamination appears to coincide with a zone in which almost no vegetation is present.*

Future remedial actions need to take into account that most of the diesel fuel contamination at the site is bound to the soil. This contamination will continue to contribute to groundwater contamination (and possibly to the free product layer) unless additional cleanup actions are taken.

Extent of Contamination

Contamination at the Drum Disposal Area has mixed with contamination from the neighboring Beach Seep Area. For the purposes of evaluating cleanup options for these two sites, alternatives described in this section focus on the estimated 48,000 cubic yards of contaminated soil present; the next section focuses on addressing free product contamination and soil contamination at the water table. As the water table moves up and down, the free product contamination spreads into the surrounding soils—also known as the smear zone. This smear zone makes up the soil contamination at the water table. The results of the feasibility study indicate that if the free product and the contamination in the soil and smear zone are addressed, natural processes will rapidly restore the quality of groundwater beneath the site and sediment along the beach.

FIGURE 4: APPROXIMATE EXTENT OF SOIL CONTAMINATION AND PROPOSED CLEANUP UNDER ALTERNATIVE 8



***Bioventing**: treatment technology that injects air into subsurface soil to increase the activity of indigenous bacteria and rapidly degrade contaminants to nonhazardous compounds.*

***Soil Vapor Extraction**: a treatment technology that pumps contaminated air from the subsurface to remove volatile contaminants from soils.*

***Thermal Treatment**: A treatment technology that heats contaminated soil to volatilize contaminants. The contaminant vapor is subsequently burned.*

Alternatives Considered for the Drum Disposal Area and Beach Seep Area Soils

- Alternative 1 (DDA 1): No action
- Alternative 7 (DDA 7): Bioventing and soil vapor extraction. Under this alternative, soil vapor extraction would be used to remediate soils containing highly volatile analytes, such as gasoline-range organics, BTEX, and 1,2-dibromoethane. Because bacteria will degrade diesel-range organics when oxygen is present, bioventing would be used in combination with soil vapor extraction to address soil contaminated with diesel fuel. Prior to implementation, a pilot test would be conducted to verify the effectiveness of bioventing and soil vapor extraction for this site and to determine well spacing.
- Alternative 8 (DDA 8): Thermal treatment, bioventing, and soil vapor extraction. This alternative would use three separate technologies to address contamination beneath the Drum Disposal Area. As with Alternative 7, a pilot test would be conducted prior to implementing this alternative to verify the effectiveness of bioventing and soil vapor extraction for this site and to determine well spacing.

TABLE 6: COMPARISON OF ALTERNATIVES FOR DRUM DISPOSAL AREA (DDA) AND BEACH SEEP AREA SOILS

Evaluation Criteria	DDA 1	DDA 7	DDA 8
Overall Protection of Human Health and the Environment			
Compliance with applicable or relevant and appropriate requirements			
Long-Term Effectiveness and Permanence			
Reduction in Toxicity, Mobility, and Volume Through Treatment			
Short-Term Effectiveness			
Implementability			
Cost (in millions)	$0	$4.3	$4.4
= meets or exceeds criteria	= partially meets criteria	= does not meet criteria	

Preferred Alternative for Drum Disposal Area and Beach Seep Area Soils

Alternative 8 is the preferred alternative for this site. The no-action alternative would not protect human health and the environment and was eliminated. Both DDA Alternatives 7 and 8 were found to be viable alternatives. Both alternatives include focused soil vapor extraction systems to remediate volatile contaminants and selectively placed bioventing to degrade less volatile fuel contaminants. The primary difference between Alternatives 7 and 8 is that Alternative 8 involves excavating and thermally treating approximately 8,825 cubic yards of soil contaminated with high diesel fuel concentra-

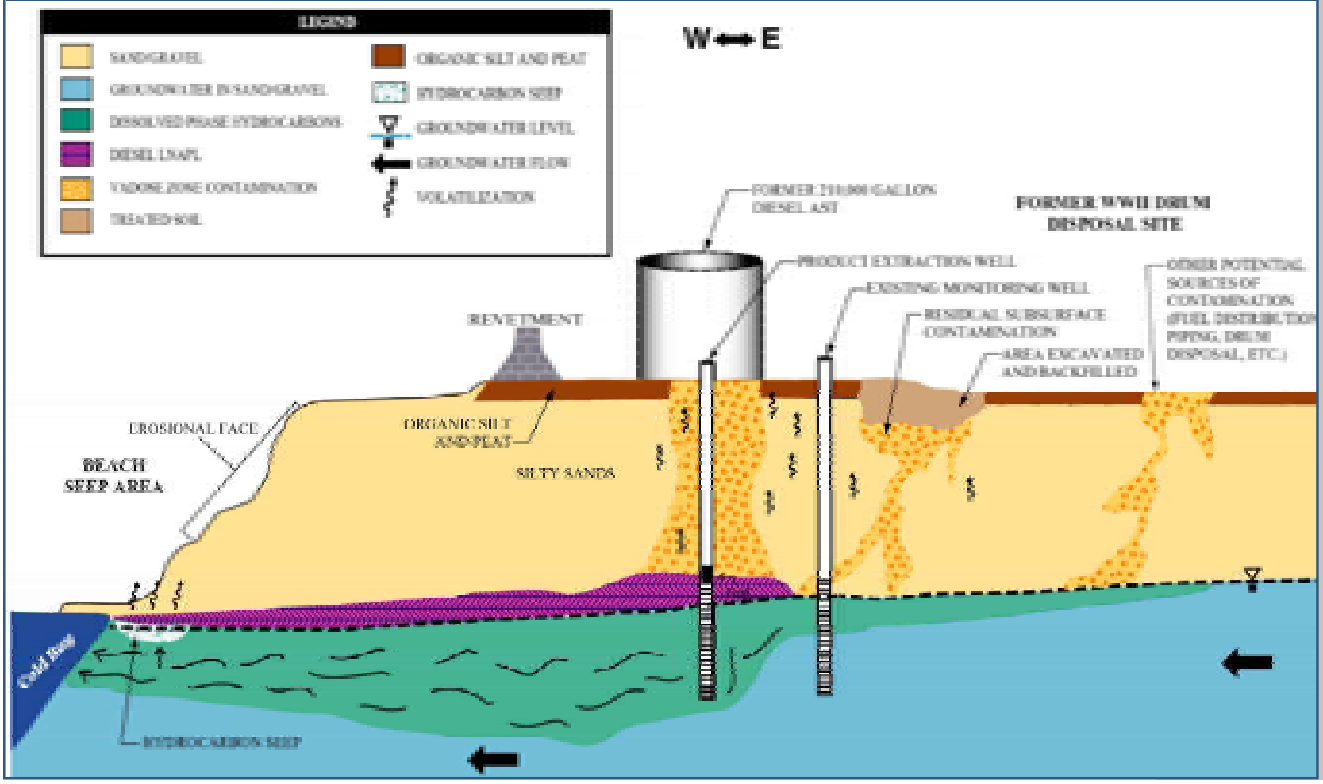
tions (greater than approximately 10,500 mg/kg), while Alternative 7 would treat this soil using bioventing. For soils with diesel fuel concentrations greater than approximately 10,500 mg/kg, bioventing may not be capable of achieving site cleanup standards. Thermal treatment would take place onsite using a portable treatment unit. Although Alternative 7 would be easier to implement, would involve less disruption to the site, and would cost slightly less, Alternative 8 is preferred over Alternative 7 as Alternative 8 is a more aggressive treatment and would more rapidly remove much of the contaminant mass. It is estimated that 15 years of bioventing and three years of soil vapor extraction would be required under Alternative 7, versus six years of bioventing and one year of soil vapor extraction under Alternative 8. Alternative 8 would achieve remedial action objectives more expediently and involve less uncertainty regarding potential effectiveness.

DRUM DISPOSAL AREA AND BEACH SEEP AREA SEDIMENTS, FREE PRODUCT, AND GROUNDWATER

Contamination addressed in this section includes free product and soil contamination at the surface of the water table (the smear zone), groundwater contamination, and contamination in marine sediments. This contamination is associated with historical fuel spills and releases from the removed 210,000-gallon diesel storage tank and upgradient releases from the Drum Disposal Area.

***Upgradient**: in the directon from which groundwater is flowing.*

FIGURE 5: CONCEPTUAL CROSS-SECTION OF DRUM DISPOSAL AND BEACH SEEP



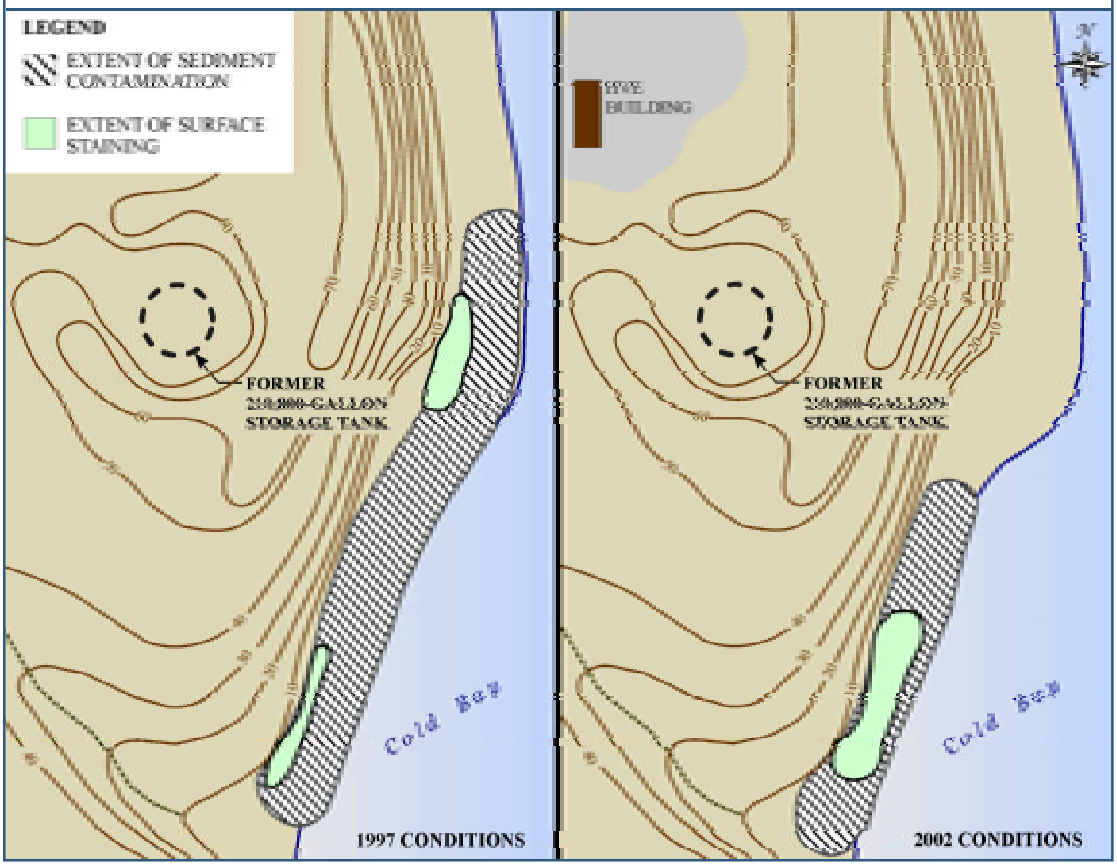
Previous Environmental Investigations and Cleanup Actions

To date, 15 monitoring wells have been installed to monitor free product thickness and groundwater contamination at the site. Groundwater monitoring has been conducted twice a year since 2001. Samples of sediment from along the beach have been collected periodically, with the most recent samples (seven) collected during the 2002 Remedial Investigation. Site investigations determined that diesel fuel from the previously removed 210,000-gallon tank and possibly from the Drum Disposal Area continues to discharge to Cold Bay at the Beach Seep Area. All known sources of contamination have been removed, but petroleum bound in the soil and floating on the groundwater will continue to migrate to the beach.

***High vacuum extraction**: a treatment technology that extracts contaminated soil vapors and groundwater, creating a zone of groundwater depression and allowing recovery of free product.*

Since installation of the high vacuum extraction (HVE) system in 1998, groundwater cleanup efforts have focused on removal of diesel-free product to minimize the discharge of fuel to the beach. As can be seen in Figure 3, the zone of free product is centered beneath the former 210,000-gallon storage tank. As can be seen in Figure 6, the existing HVE system has helped to minimize discharge of free product directly downgradient from the tank, but free product continues to discharge southeast of the tank. As of the end of March 2004, the system had removed approximately 47,000 pounds (6,200 gallons) of diesel fuel contamination.

FIGURE 6: EXTENTS OF CONTAMINATION-BEACH SEEP AREA



A pilot study in 2002 concentrated on the area of visible soil staining and diesel product accumulation along the shoreline below the Drum Disposal Area. The study was performed to evaluate options for remediation of the shoreline area and to recommend treatment options. One of the lessons learned from the pilot test is that extraction of contamination along the beach is not feasible.

Extent of Contamination

A geophysical survey in 2002 at the Drum Disposal Area and Beach Seep Area revealed no remaining sources. Test pitting, in conjunction with sediment screening and sampling, on the beach showed the active, visible, petroleum hydrocarbon seep is currently approximately 100 feet long. The survey showed that sediment contamination extended about 250 feet. Inland test pitting and soil boring activities, along with soil screening and sampling, showed extensive hydrocarbon contamination from ground surface to groundwater from the previously removed diesel aboveground storage tank. Samples of groundwater and surveys of free product showed free product on the beach and in some inland wells, as well as extensive dissolved phase hydrocarbon contamination throughout the Beach Seep Area.

Alternatives Considered for Drum Disposal Area and Beach Seep Area (BSA) Sediments, Free Product, and Groundwater

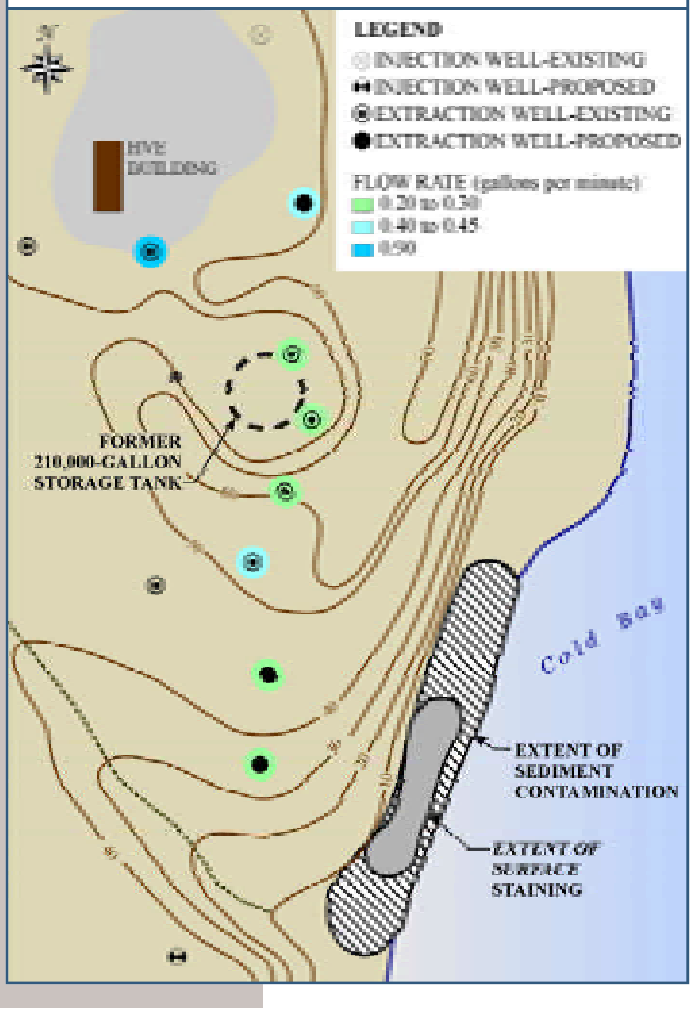
- Alternative 1 (BSA 1): No action.
- Alternative 3 (BSA 3): High vacuum extraction of free product and contaminated groundwater from an extraction well fence. Under this alternative, existing wells would be combined with a series of new wells to form a line of extraction wells along the east side of the site. These wells would serve as a downgradient cutoff fence to prevent free phase contamination from migrating toward Cold Bay. To implement this alternative, approximately 13 new extraction wells would be installed. The extracted groundwater and product would be treated by the existing high vacuum extraction system. The treated water would then be discharged to the existing injection well.
- Alternative 5 (BSA 5): High vacuum extraction for mass capture. Under this alternative, the existing high vacuum extraction system would be modified to maximize mass capture of free product and groundwater contamination (see Figure 7). The modification would be designed to remove as much product from the groundwater as quickly as possible. The proposed modification would include approximately three additional extraction wells. A second injection well would be required to discharge treated water and to improve hydraulic control. In addition, the HVE controls system would be upgraded and the operational strategy would be modified. A telemetry system would be added that would allow the remote control of selected instrumentation, pumps, and valves. This would allow early detection and resolution of potential problems and help minimize system downtime.

***Downgradient**: in the direction that groundwater is flowing.*

TABLE 7: COMPARISON OF ALTERNATIVES FOR DRUM DISPOSAL AREA AND BEACH SEEP AREA SEDIMENTS, FREE PRODUCT, AND GROUNDWATER

Evaluation Criteria	BSA 1	BSA 3	BSA 5
Overall Protection of Human Health and the Environment			
Compliance with applicable or relevant and appropriate requirements			
Long-Term Effectiveness and Permanence			
Reduction in Toxicity, Mobility, and Volume Through Treatment			
Short-Term Effectiveness			
Implementability			
Cost (in millions)	$0	$6.4	$6.2
= meets or exceeds criteria	= partially meets criteria		= does not meet criteria

FIGURE 7: BSA-5 WELLS FOR THE HVE SYSTEM



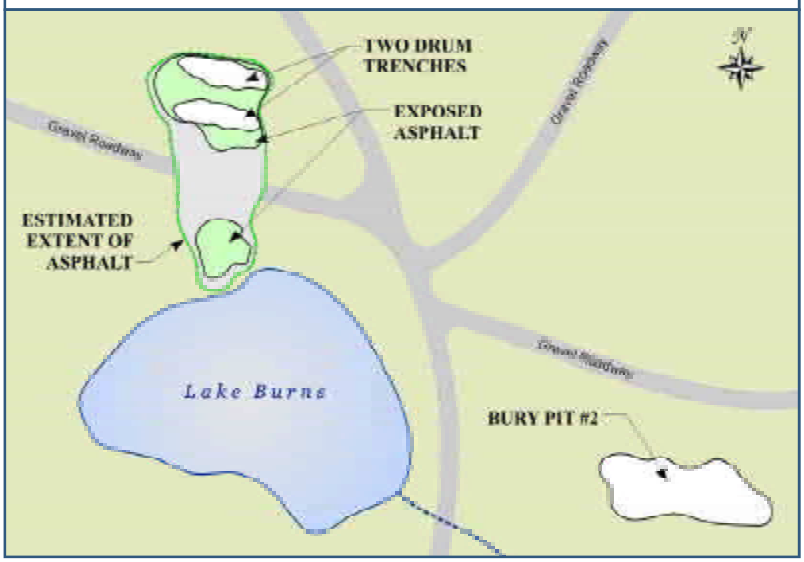
Preferred Alternative for Drum Disposal Area and Beach Seep Area Sediments, Free Product, and Groundwater

Alternative 5 is the preferred alternative for sediments, free product and groundwater at the Drum Disposal Area and Beach Seep Area. The no-action alternative would not protect human health and the environment and was eliminated. Both Alternatives 3 and 5 could be implemented relatively easily because they rely heavily on the existing, operational HVE system. The primary difference between Alternatives 3 and 5 is their pumping scenarios. Alternative 3 is expected to restore Beach Seep Area sediments more rapidly than Alternative 5 but would require more time than Alternative 5 to remove free product and restore groundwater. Additionally, Alternative 3 is estimated to cost about $230,000 more than Alternative 5. Of the two alternatives, Alternative 5 appears to offer better long-term effectiveness and permanence. Based on its ability to clean up all site contamination more rapidly and its lower cost, Alternative 5 is preferred for the site. Under the preferred alternative, operation of the modified HVE treatment system would continue as long as removal of free product remains technically feasible and cost effective. Following treatment, monitored natural attenuation would be conducted until cleanup goals are met.

ASPHALT SEEPS

The Asphalt Seeps site likely resulted from disposal of excess asphalt during runway paving activities following World War II. In addition, drums, some of which contain liquids other than asphalt, are buried in three areas across the site. Two drum trenches and several areas of exposed asphalt lie north of Lake Burns. Drums are also buried at Bury Pit No. 2, a permitted landfill east of Lake Burns.

FIGURE 8: ASPHALT SEEPS



Previous Environmental Investigations and Cleanup Actions

At a 1998 public meeting in Cold Bay, an asphalt seep was identified near the runway. Subsequent investigation revealed exposed asphalt southwest of the runway intersection. Several partially exposed drums indicated the presence of two distinct drum trenches at the north end of the site. In 1999, a geophysical survey was performed to investigate the two drum trenches. The survey indicated two regions, each approximately 125-feet long by 25-feet wide, that were interpreted to contain multiple drums and drum clusters at depths from the ground surface to 15-feet deep. A test pit dug in the northern drum trench in 2002 revealed that some of the drums contain liquids other than asphalt. The one drum sampled contained petroleum mineral oil.

The 2002 remedial investigation revealed Bury Pit No. 2. Several pieces of drums are visible in this area, and a geophysical survey confirmed the presence of numerous buried metal objects. Based on the geophysical survey, Bury Pit No. 2 includes an area of buried drums and other metallic debris 230-feet long by 90-feet wide by 15-feet deep.

Extent of Contamination

Investigation of the Asphalt Seeps indicated the average thickness of asphalt is about 6 inches and that the asphalt extends over an area of approximately 150 feet by 350 feet. Soil beneath the two drum trenches is contaminated from the surface to groundwater (approximately 14 feet below ground surface) and includes about 2,500 cubic yards of contaminated soil. The contamination has affected the shallow groundwater beneath the site, but analytical results indicate contaminants have not reached Lake Burns. In addition, soft asphalt poses an entrapment hazard to wildlife.

***Photo**:Geophysical surveys at the Asphalt Seeps. Note the grid laid out on the ground surface was used to track locations and ensure uniform data coverage.*

Considerable uncertainty remains regarding the number of drums present in Bury Pit No. 2. Historical photos show approximately 30 drums present at the bottom of the bury pit. Currently, a number of drums are partially exposed at the ground surface. Stories conflict from those residents present at the time waste was disposed in the bury pit, indicating either that a substantial number of drums were buried or that the bury pit contains mostly metallic debris from Quonset huts. Four test pits excavated around the site did not contain contaminant concentrations above cleanup levels. However, a groundwater sample from a well point adjacent to the bury pit contained residual-range organics and lead at concentrations above cleanup levels. Due to lack of water, it has not been possible to resample this well point.

Alternatives Considered for the Asphalt Seeps

- Alternative 1 (ASA 1): No action.
- Alternative 2 (ASA 2): Remove all drums and cap asphalt. Under this alternative, all drums and associated contaminated soil would be removed and a permeable cap would be placed over the asphalt contamination.
- Alternative 2 Modified (ASA 2 Modified): Remove drums from drum trenches, cap exposed asphalt, and monitor Bury Pit No. 2. Under this alternative, all drums from the two drum trenches would be removed. However, Bury Pit No. 2 would not be excavated. A permeable cap would be placed over the asphalt contamination. Monitoring wells would be installed around Bury Pit No. 2 to monitor groundwater quality. The soil cover over Bury Pit No. 2 would be inspected and, if necessary, additional fill material would be placed or surface debris removed.
- Alternative 3 (ASA 3): Remove all drums and exposed asphalt. With this alternative, all drums and their associated contaminated soil would be removed. The exposed asphalt also would be removed.

TABLE 8: COMPARISON OF ALTERNATIVES FOR THE ASPHALT SEEPS

Evaluation Criteria	ASA 1	ASA 2	ASA 2 Modified	ASA 3
Overall Protection of Human Health and the Environment				
Compliance with applicable or relevant and appropriate requirements				
Long-Term Effectiveness and Permanence				
Reduction in Toxicity, Mobility, and Volume Through Treatment				
Short-Term Effectiveness				
Implementability				
Cost (in millions)	$0	$12.02	$7.03	$12.07
= meets or exceeds criteria	= partially meets criteria		= does not meet criteria	

Preferred Alternative for the Asphalt Seeps

Alternative ASA 2 modified is the preferred alternative for this site. The no-action alternative would not protect human health and the environment and was eliminated.

Considerable environmental impacts to the surrounding tundra would result from removal of the asphalt. Because the asphalt is immobile and does not pose a threat to groundwater or Lake Burns, placing a permeable soil cap across the site is preferred over removing the asphalt.

***Permeable Cap**: a layer of soil constructed on top of a site to prevent contact with contaminants.*

Alternatives 2, 2 Modified, and 3 include removal of the drums from the two drum trenches. Alternatives 2 and 3 also would excavate Bury Pit No. 2. With Alternative ASA-2 Modified, a series of monitoring wells would be installed around Bury Pit No. 2 to monitor groundwater quality. Because Bury Pit No. 2 was constructed under an ADEC permit and the site is located within the runway area, it appears likely that the drums associated with Bury Pit No. 2 were empty when they were buried. At this time, the available data does not support excavating Bury Pit No. 2. For these reasons, Alternative ASA-2 Modified is preferred. However, if data collected from the monitoring component of Alternative ASA-2 Modified indicates that Bury Pit No. 2 poses an unacceptable risk to human health or the environment, additional cleanup actions will be considered.

STAPP CREEK AND THE EAST-WEST RUNWAY

During World War II, the military stored and distributed aviation gasoline at the Stapp Creek and the East-West Runway areas. The underground storage tanks, associated pipelines, and truck fill stations were used to fuel aircraft.

Previous Environmental Investigations and Cleanup Actions

Stapp Creek. According to as-built drawings, 32 numbered USTs and two truck fill stations originally were constructed at Stapp Creek. In approximately 1984-1985, the majority of these underground storage tanks or USTs were removed. During 1996 and 1997, the locations of 15 USTs were confirmed using visual observations and a magnetometer. During the 1997 removal activities, all 15 tanks were removed and shipped off site for recycling, and the area re-graded. During the 1998 removal activities, a 20-foot section of 8-inch aviation gasoline pipeline crossing Stapp Creek was removed. The remaining pipeline on either side of the creek was capped. Soil samples collected at the ends of the remaining pipelines demonstrated that the pipelines are not current sources of contamination. During the 2002 remedial investigation, all remaining pipelines were traced using an electromagnetic pipe locator and geophysical methods. Two test pits were dug at each potential UST location, unless documentation was available demonstrating that the UST was previously removed. Several isolated areas of soil contamination and one remaining UST (UST 26) were identified.

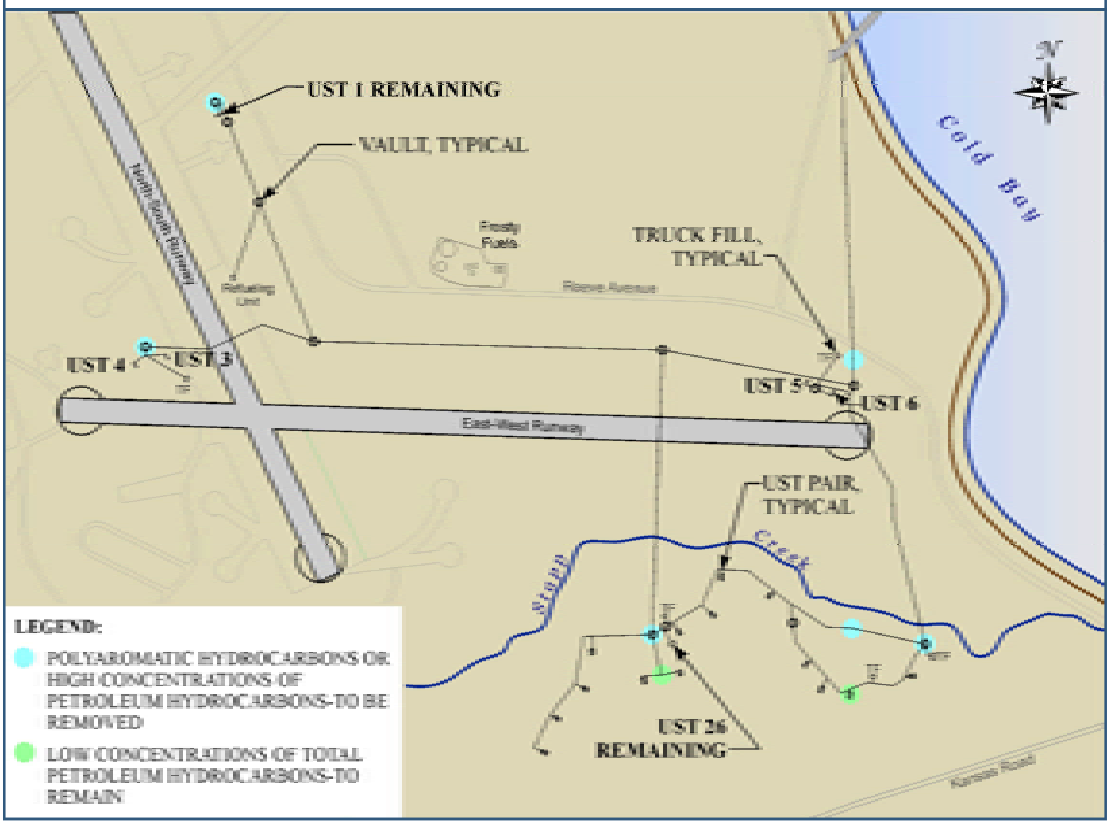
***Photo**: Excavating test pits in the Stapp Creek area. Photo taken looking toward the south, with Mount Frosty in the background.*

East-West Runway. Six USTs and associated valve pits and underground piping were associated with the East-West Runway. UST pairs 3-4 and 5-6 were removed during the 1999 removal actions. As part of the UST removal, the 4-inch pipe connecting the USTs to their associated valve pits was removed, except for the piping pair connected to UST 3 (this piping could not be removed due to underground electrical lines). Excavations were backfilled and the areas were re-graded. UST 1 was located during the 2002 remedial investigation and contains water contaminated with aviation gasoline. Historical drawings indicate that a second UST (UST 2) was located near UST 1 with a valve pit located between the two tanks. The actual construction and piping layout differed markedly from the historical drawings with the valve pit located on top of, not adjacent to, UST 1. The difference in piping configurations, the geophysical survey, and ground surface observations suggest that UST 2 may have never existed. Several isolated areas of contaminated soil also were identified. A geophysical survey and ground surface observations revealed no indication of any other remaining USTs.

Extent of Contamination

There are several isolated areas of contamination remaining in the Stapp Creek and East-West Runway sites (see Figure 9). Sampling during the 2003 investigation indicated that soils in eight areas exceeded cleanup levels. Each of these areas was isolated and contains a small volume of contaminated soil (approximately 2 cubic yards). In addition, two 25,000-gallon USTs remain, one in each area. Both USTs are full of water with elevated levels of petroleum contamination. Because the remaining contaminated soil has relatively low volume and is not concentrated in one area, cleanup alternatives are limited to either removing the soils or preventing exposure to them using institutional controls.

FIGURE 9: STAPP CREEK AND EAST-WEST RUNWAY AREAS



Alternatives Considered for the Stapp Creek and East-West Runway Sites

Alternatives developed for Stapp Creek do not include actions to remove or monitor contamination associated with two of the eight isolated soil samples. The total volume of contaminated soil associated with these two samples is estimated to be 4 cubic yards. No further action is proposed to address these areas. Although the concentrations detected are above the Method 2 migration to groundwater standard (250 mg/kg diesel-range organics), given the low concentration of diesel-range organics detected (293 mg/kg and 361 mg/kg, respectively) and the limited volume of soil affected, the contamina-

tion will not adversely affect groundwater quality. Both samples were below the detection limit for all BTEX (benzene, toluene, ethylbenzene, and xylene) compounds and PAHs, the risk drivers normally associated with fuels. The following alternatives for the Stapp Creek and East-West Runway Areas (SC/EWR) received detailed analysis:

- Alternative 1 (SC/EWR 1): No action.
- Alternative 3 (SC/EWR 3): UST removal, soil excavation, and treatment/disposal. Alternative 3 proposes to treat the contaminated water in the USTs, remove the USTs, and ship them offsite for recycling. Under this alternative, the pockets of PAH-contaminated soil would be excavated, confirmation soil samples would be collected, and the excavated soils would be shipped offsite for disposal. Following removal of contaminated soils, the excavations would be backfilled and existing valve pits would be filled in to eliminate the hazards presented by the openings in the ground surface.

TABLE 9: COMPARISON OF ALTERNATIVES FOR STAPP CREEK AND EAST-WEST RUNWAY

Evaluation Criteria	SC/EWR 1	SC/EWR 3
Overall Protection of Human Health and the Environment		
Compliance with Applicable or Relevant and Appropriate Requirements		
Long-Term Effectiveness and Permanence		
Reduction in Toxicity, Mobility, and Volume Through Treatment		
Short-Term Effectiveness		
Implementability		
Cost (in thousands)	$0	$400
= meets or exceeds criteria = partially meets criteria = does not meet criteria		

Preferred Alternative for the Stapp Creek and East-West Runway Sites

Alternative 3 is the preferred alternatives for the Stapp Creek and East-West Runway sites. The no-action alternative would not protect human health and the environment and was eliminated.

Alternative 3 (UST removal, soil excavation, and treatment/disposal) appears to be the only effective and viable option for the site. This alternative would rapidly eliminate all remaining PAH contamination above cleanup levels at the Stapp Creek and East-West Runway areas and ready those sites for closure. Therefore, this alternative is preferred for these areas.

COLLAPSED WOODEN BUILDING

The Collapsed Wooden Building site is located to the northwest of the runway intersection (see Figure 2). The building was used to store drums of jet fuel, presumably during the late 1960s when the Flying Tigers leased the runway. The remains of the original wood building were burned in a fire-fighting training exercise during 2002.

Previous Environmental Investigations

A public meeting in Cold Bay in 1998 provided input regarding a stack of 55-gallon drums located in the Collapsed Wooden Building. During the 1998 investigation, the drums were stacked primarily on the wooden floor area and many drums appeared rusty and empty. In 1999, crews removed 207 empty drums and 18 drums containing liquid from the building area. Of the 18 drums that contained liquid, 12 contained water, five contained a mixture of petroleum products and water, and one contained ignitable fuel. Five soil samples were collected from beneath the site, one of which contained diesel-range organics at concentrations above cleanup levels.

***Photo**: Collapsed Wooden Building site, looking east. Note the burned construction material and tundra.*

Extent of Contamination

In 2002, samples of surface soil downgradient of the Collapsed Wooden Building demonstrated that contaminant concentrations were well below cleanup levels, eliminating the concern that overland flow of contamination had occurred in the area. Subsurface soil sampling at the only area of known contamination below the Collapsed Wooden Building revealed minimal contamination. A small quantity of contaminated soil was removed and confirmation samples showed that all contamination above cleanup levels has been removed. Since all known contamination has been removed from the site, no further action is warranted for this site.

PUBLIC PARTICIPATION

You are encouraged to provide comments on the preferred alternatives for the six sites discussed in this Proposed Plan addressing environmental contamination at Cold Bay. Your comments can make a difference in choosing cleanup alternatives. USAED will not select a final course of action until all public comments received during the public comment period have been reviewed and considered.

Your comments may be presented in writing or at the public meeting. A pre-addressed comment form is included in this Proposed Plan and can be used to provide written comments. The public comment period is from 26 April to 21 May 2004.

The public meeting to discuss the proposed cleanup actions for Cold Bay, answer questions, address concerns, and receive public comments will be held at 6:30 PM on 3 May 2004 at the Cold Bay City Hall/Library.

***Decision Document**: The signed record that documents the cleanup alternative selected for a site.*

***Administrative Record**: A file that contains information used by USAED to select a remedy for a site. This file is available for public review.*

The USAED will prepare written responses to all significant comments received regarding this Proposed Plan. A summary of these responses will accompany the Decision Document and will be made available in the Administrative Record at the Information Repository noted below.

Information on the former Fort Randall site can be obtained from the Information Repository at Cold Bay. The repository contains site information, including detailed investigation reports, test results from field studies, and removal actions performed. Key documents containing background information regarding this Proposed Plan include:

- *Final Site Investigation and Interim Removal Action Report, Beach Seep Area and Former Fuel Storage Tank, World War II Drum Disposal Area, Aviation Gasoline Underground Storage Tank Area*, Cold Bay, Alaska, August 1998
- *Final 1998 Removal Action Report, World War II Drum Disposal Area, Stapp Creek Pipeline, and Beach Seep Area*, Cold Bay, Alaska, May 1999.
- *Final 1999 Removal Action Report: World War II Drum Disposal Area, Runway Area, and Stapp Creek*, Cold Bay, Alaska, May 2000

- *Final 2002 Remedial Investigation Report*, Cold Bay, Alaska, January 2003
- *Final 2003 Feasibility Study*, Cold Bay Alaska, November 2003

The Information Repository at Cold Bay is located at the City Clerk's office. The documents listed above may also be obtained at the Jacobs Engineering Group offices, 4300 B Street, Suite 600, Anchorage (907-751-3332).

For further assistance in locating these documents, or if you have any questions, please contact:

U.S. Army Engineer District, Alaska
CEPOA-PM-C-FUDS
Mr. Ron Pflum
Post Office Box 6898
Elmendorf AFB, AK 99506-6898
(907) 753-5785

For questions regarding ADEC regulations, please contact:

Ms. Deb Caillouet
Alaska Department of Environmental Conservation
555 Cordova Street
Anchorage, AK 99501-2617
(907) 269-0298

COMMENTS

Use this space to write your comments

Your input on the cleanup actions proposed in this Proposed Plan is important to the USAED. Comments provided by the public are valuable in helping select a final alternative. You may use the space below to prepare your comments. When you are finished, please fold and mail. Comments must be postmarked by 21 May 2004. If you have a question about the comment period, please contact Mr. Ron Pflum (907) 753-5785.

Optional information: Name _____

Address _____

Phone _____

Fold here

PLEASE
AFFIX
PROPER
POSTAGE

U.S. Army Engineer District, Alaska
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